AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Original) A method for controlling the initial movement of an electrosurgical electrode of an electrosurgical device comprising:

initiating the delivery of energy to an electrosurgical electrode;

monitoring an electrical characteristic associated with the electrosurgical electrode;

determining when an arc has been initiated based upon the monitoring step; and

moving the electrosurgical electrode once the arc has been detected.

2. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring a change in electrical impedance.

3. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring a change in voltage.

4. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring a change in current.

5. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring electrical impedance.

6. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring voltage.

7. (Original) The method according to claim 1, wherein the monitoring step is carried out by monitoring current.

8. (Original) The method according to claim 5, wherein the monitoring step is carried out by monitoring for an electrical impedance over 500 ohms.

9. (Original) The method according to claim 1, wherein the moving step comprises automatically beginning moving the electrosurgical electrode once the arc has been detected.

10. (Original) The method of claim 1, further comprising the step of adjusting the energy delivered to the electrosurgical electrode based upon the monitoring step so to at least help maintain an effective arc.

11. (Original) The method of claim 1, further comprising the step of adjusting the speed of the electrosurgical electrode based upon the monitoring step so to at least help maintain an effective arc.

12-27. (Cancelled)

28. (Original) An electrosurgical assembly comprising:

a cutting device comprising a catheter having a proximal end and a distal end and an electrode carried by the distal end of the catheter;

a controller connected to the cutting device;

a data acquisition system connected to the controller, wherein the data acquisition system is capable of monitoring voltage and current output;

a microprocessor connected to the data acquisition system for processing voltage and current data from the data acquisition system; and

an electrosurgical generator connected to the data acquisition system,

wherein the controller initiates movement of the electrode upon arc initiation at the electrode.

29. (Original) The electrosurgical assembly of claim 28, further comprising an electrically isolated switch connecting the data acquisition system and controller.

30. (Original) The electrosurgical assembly of claim 29, wherein the electrically isolated switch is an optical switch.

31. (Original) The electrosurgical assembly of claim 28, further comprising a return electrode connected to the electrosurgical generator.

32. (Original) The electrosurgical assembly of claim 28, wherein the electrode has a proximal part and a distal part, the distal part connected to the distal portion of the catheter and movable between a retracted state and an outwardly extending, operational state.

33. (Original) The electrosurgical assembly of claim 28, wherein the cutting device further comprises a proximal end assembly, wherein the proximal end assembly comprises a first driver operably coupled to the electrode, constructed to (1) move the electrode from the retracted state, and (2) rotate the electrode about the axis, whereby a tissue section is separable from surrounding tissue by the moving electrode.

34. (Original) The electrosurgical assembly of claim 28, wherein the movement comprises rotation of the electrode about its axis.

35. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor comprises logic to calculate the electrical impedance and determine the presence of an arc based on a change in electrical impedance.

36. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor determines the presence of an arc based on a change in voltage.

37. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor determines the presence of an arc based on a change in current.

38. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor determines the presence of an arc base on electrical impedance.

39. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor determines the presence of an arc based on voltage.

40. (Original) The electrosurgical assembly of claim 28, wherein the microprocessor determines the presence of an arc based on current.

41. (Original) The electrosurgical assembly of claim 38, wherein the presence of the arc is determined by an electrical impedance over 500 ohms.

42. (Original) The electrosurgical assembly of claim 28, wherein the controller, data acquisition system, electrosurgical generator, and microprocessor are integrated into a single control unit.

43. (Original) An electrosurgical assembly comprising:

a cutting device comprising a catheter having a proximal end and a distal end and an electrode carried by the distal end of the catheter;

a controller connected to the cutting device;

a data acquisition system connected to the controller, wherein the data acquisition system is capable of monitoring voltage and current output;

an arc detection cable connecting the data acquisition system to the controller; and

an electrosurgical generator connected to the data acquisition system,

wherein the controller initiates movement of the electrode upon arc initiation at the electrode.

44-58. (Cancelled)

59. (Original) An electrosurgical assembly comprising:

a cutting device comprising a catheter having a proximal end and a distal end, and an electrode carried by the distal end of the catheter;

a control unit connected to the cutting device comprising

an electrosurgical generator connected to the cutting device;

a data acquisition system connected to the electrosurgical generator, wherein the data acquisition system is capable of monitoring the RF voltage and current output;

a microprocessor connected to the data acquisition system for collecting the voltage and current data from the data acquisition system; and

a controller connected to the data acquisition system, wherein the controller initiates movement of the electrode upon arc initiation at the electrode.

60-69. (Cancelled)

70. (New) The electrosurgical assembly of claim 43, further comprising a microprocessor connected to the data acquisition system for processing voltage and current data from the data acquisition system.

71. (New) The electrosurgical assembly of claim 43, further comprising an electrically isolated switch connecting the data acquisition system and controller.

72. (New) The electrosurgical assembly of claim 43, wherein the electrically isolated switch is an optical switch.

73. (New) The electrosurgical assembly of claim 43, further comprising a return electrode connected to the electrosurgical generator.

74. (New) The electrosurgical assembly of claim 43, wherein the electrode has a proximal part and a distal part, the distal part connected to the distal portion of the catheter and movable between a retracted state and an outwardly extending, operational state.

75. (New) The electrosurgical assembly of claim 43, wherein the cutting device further comprises a proximal end assembly, wherein the proximal end assembly comprises a first driver operably coupled to the electrode, constructed to (1) move the electrode from the retracted state, and (2) rotate the electrode about the axis, whereby a tissue section is separable from surrounding tissue by the moving electrode.

76. (New) The electrosurgical assembly of claim 43, wherein the movement comprises rotation of the electrode about its axis.

77. (New) The electrosurgical assembly of claim 70, wherein the controller, data acquisition system, electrosurgical generator, and microprocessor are integrated into a single control unit.

78. (New) The electrosurgical assembly of claim 70, wherein the microprocessor comprises logic to calculate the electrical impedance and determine the presence of an arc based on a change in electrical impedance.

79. (New) The electrosurgical assembly of claim 70, wherein the microprocessor determines the presence of an arc based on a change in voltage.

80. (New) The electrosurgical assembly of claim 70, wherein the microprocessor determines the presence of an arc based on a change in current.

81. (New) The electrosurgical assembly of claim 70, wherein the microprocessor comprises logic to calculate the electrical impedance and determine the presence of an arc based on electrical impedance.

82. (New) The electrosurgical assembly of claim 70, wherein the microprocessor determines the presence of an arc based on voltage.

83. (New) The electrosurgical assembly of claim 70, wherein the microprocessor determines the presence of an arc based on current.

84. (New) The electrosurgical assembly of claim 81, wherein the presence of the arc is determined by an electrical impedance over 500 ohms.

85. (New) The electrosurgical assembly of claim 59, wherein the movement comprises rotation of the electrode about its axis.

86. (New) The electrosurgical assembly of claim 59, wherein the microprocessor comprises logic to calculate the electrical impedance and determine the presence of an arc based on a change in electrical impedance.

87. (New) The electrosurgical assembly of claim 59, wherein the microprocessor determines the presence of an arc based on a change in voltage.

88. (New) The electrosurgical assembly of claim 59, wherein the microprocessor determines the presence of an arc based on a change in current.

89. (New) The electrosurgical assembly of claim 59, wherein the microprocessor comprises logic to calculate the electrical impedance and determine the presence of an arc based on electrical impedance.

90. (New) The electrosurgical assembly of claim 59, wherein the microprocessor determines the presence of an arc based on voltage.

91. (New) The electrosurgical assembly of claim 59, wherein the microprocessor determines the presence of an arc based on current.

92. (New) The electrosurgical assembly of claim 89, wherein the presence of the arc is determined by an electrical impedance over 500 ohms.

93. (New) The electrosurgical assembly of claim 59, wherein the control unit further comprises a power supply in communication with the controller.

94. (New) The electrosurgical assembly of claim 59, wherein the controller controls a DC motor.